

SEQUENCE LISTING

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Tayapiwatana, Chatchai
Goetz, Friedrich
Werner, Rolf-Guenther

<120> Methods for Large Scale Protein Production in Prokaryotes

<130> 0652.2180001

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<150> 60/268,573
<151> 2001-02-15

<150> GB 00 27 782.2
<151> 2000-11-14

<160> 18

<170> PatentIn Ver. 2.1

<210> 1
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<212> DNA
<213> Escherichia coli

<400> 1
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gcggcc 66

<210> 2
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: N-terminal
part of K2S molecule

<400> 2
Ser Glu Gly Asn
1

<210> 3
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: N-terminal
part of K2S molecule

<400> 3
Ser Glu Gly Asn Ser Asp

1

5

<210> 4
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: coding
sequence of the N-terminal part of K2S molecule

<400> 4
tctgagggaa ac 12

<210> 5
<211> 18
<212> DNA
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<220>
<223> Description of Artificial Sequence: coding
sequence of the N-terminal part of K2S molecule

<400> 5
tctgagggaa acagtgc 18

<210> 6
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: oligonucleotide
sequence

<400> 6
gaggaggagg tggcccaggc ggcctctgag ggaaacagtgc ac 42

<210> 7
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: oligonucleotide
sequence

<400> 7
gaggaggagc tggccggcct ggcccggtcg catgttgtca cg 42

<210> 8
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: oligonucleotide

Top Secret

sequence

<400> 8
acatgacgacc gtgacaggcc ggccag 26

<210> 9
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: oligonucleotide
sequence

<400> 9
ctggccggcc tgtcacggtc gcatgt 26

<210> 10
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<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: part of the
recombinant K2S molecule

<400> 10
Ser Glu Gly Asn Ser Asp Cys Tyr Phe Gly Asn Gly Ser Ala Tyr Arg
1 5 10 15
Gly Thr His Ser Leu Thr Glu Ser Gly Ala Ser Cys Leu Pro Trp Asn
20 25 30
Ser Met Ile Leu Ile Gly Lys Val Tyr Thr Ala Gln Asn Pro Ser Ala
35 40 45
Gln Ala Leu Gly Leu Gly Lys His Asn Tyr Cys Arg Asn Pro Asp Gly
50 55 60
Asp Ala Lys Pro Trp Cys His Val Leu Lys Asn Arg Arg Leu Thr Trp
65 70 75 80
Glu Tyr Cys Asp Val Pro Ser Cys Ser Thr Cys Gly Leu Arg Gln Tyr
85 90 95
Ser Gln Pro Gln Phe Arg Ile Lys Gly Gly Leu Phe Ala Asp Ile Ala
100 105 110
Ser His Pro Trp Gln Ala Ala Ile Phe Ala Lys His Arg Arg Ser Pro
115 120 125
Gly Glu Arg Phe Leu Cys Gly Gly Ile Leu Ile Ser Ser Cys Trp Ile
130 135 140
Leu Ser Ala Ala His Cys Phe Gln Glu Arg Phe Pro Pro His His Leu
145 150 155 160
Thr Val Ile Leu Gly Arg Thr Tyr Arg Val Val Pro Gly Glu Glu Glu
165 170 175

009911112233445566778899

Gln Lys Phe Glu Val Glu Lys Tyr Ile Val His Lys Glu Phe Asp Asp
180 185 190

Asp Thr Tyr Asp Asn Asp Ile Ala Leu Leu Gln Leu Lys Ser Asp Ser
195 200 205

Ser Arg Cys Ala Gln Glu Ser Ser Val Val Arg Thr Val Cys Leu Pro
210 215 220

Pro Ala Asp Leu Gln Leu Pro Asp Trp Thr Glu Cys Glu Leu Ser Gly
225 230 235 240

Tyr Gly Lys His Glu Ala Leu Ser Pro Phe Tyr Ser Glu Arg Leu Lys
245 250 255

Glu Ala His Val Arg Leu Tyr Pro Ser Ser Arg Cys Thr Ser Gln His
260 265 270

Leu Leu Asn Arg Thr Val Thr Asp Asn Met Leu Cys Ala Gly Asp Thr
275 280 285

Arg Ser Gly Gly Pro Gln Ala Asn Leu His Asp Ala Cys Gln Gly Asp
290 295 300

Ser Gly Gly Pro Leu Val Cys Leu Asn Asp Gly Arg Met Thr Leu Val
305 310 315 320

Gly Ile Ile Ser Trp Gly Leu Gly Cys Gly Gln Lys Asp Val Pro Gly
325 330 335

Val Tyr Thr Lys Val Thr Asn Tyr Leu Asp Trp Ile Arg Asp Asn Met
340 345 350

Arg Pro

<210> 11
<211> 331
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: part of the
recombinant K2S molecule

<400> 11
Ser Gly Ala Ser Cys Leu Pro Trp Asn Ser Met Ile Leu Ile Gly Lys
1 5 10 15

Val Tyr Thr Ala Gln Asn Pro Ser Ala Gln Ala Leu Gly Leu Gly Lys
20 25 30

His Asn Tyr Cys Arg Asn Pro Asp Gly Asp Ala Lys Pro Trp Cys His
35 40 45

Val Leu Lys Asn Arg Arg Leu Thr Trp Glu Tyr Cys Asp Val Pro Ser
50 55 60

Cys Ser Thr Cys Gly Leu Arg Gln Tyr Ser Gln Pro Gln Phe Arg Ile
65 70 75 80

Lys Gly Gly Leu Phe Ala Asp Ile Ala Ser His Pro Trp Gln Ala Ala
85 90 95

Ile Phe Ala Lys His Arg Arg Ser Pro Gly Glu Arg Phe Leu Cys Gly
100 105 110

Gly Ile Leu Ile Ser Ser Cys Trp Ile Leu Ser Ala Ala His Cys Phe
115 120 125

Gln Glu Arg Phe Pro Pro His His Leu Thr Val Ile Leu Gly Arg Thr
130 135 140

Tyr Arg Val Val Pro Gly Glu Glu Glu Gln Lys Phe Glu Val Glu Lys
145 150 155 160

Tyr Ile Val His Lys Glu Phe Asp Asp Asp Thr Tyr Asp Asn Asp Ile
165 170 175

Ala Leu Leu Gln Leu Lys Ser Asp Ser Ser Arg Cys Ala Gln Glu Ser
180 185 190

Ser Val Val Arg Thr Val Cys Leu Pro Pro Ala Asp Leu Gln Leu Pro
195 200 205

Asp Trp Thr Glu Cys Glu Leu Ser Gly Tyr Gly Lys His Glu Ala Leu
210 215 220

Ser Pro Phe Tyr Ser Glu Arg Leu Lys Glu Ala His Val Arg Leu Tyr
225 230 235 240

Pro Ser Ser Arg Cys Thr Ser Gln His Leu Leu Asn Arg Thr Val Thr
245 250 255

Asp Asn Met Leu Cys Ala Gly Asp Thr Arg Ser Gly Gly Pro Gln Ala
260 265 270

Asn Leu His Asp Ala Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys
275 280 285

Leu Asn Asp Gly Arg Met Thr Leu Val Gly Ile Ile Ser Trp Gly Leu
290 295 300

Gly Cys Gly Gln Lys Asp Val Pro Gly Val Tyr Thr Lys Val Thr Asn
305 310 315 320

Tyr Leu Asp Trp Ile Arg Asp Asn Met Arg Pro
325 330

<210> 12

<211> 339

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: part of the
recombinant K2S molecule (modified)

<400> 12

Ser Glu Gly Asn Ser Leu Thr Glu Ser Gly Ala Ser Cys Leu Pro Trp
1 5 10 15

[illegible]

<400> 13															
Ser 1	Leu	Thr	Glu	Ser 5	Gly	Ala	Ser	Cys	Leu 10	Pro	Trp	Asn	Ser	Met 15	Ile
Leu	Ile	Gly	Lys 20	Val	Tyr	Thr	Ala	Gln 25	Asn	Pro	Ser	Ala	Gln 30	Ala	Leu
Gly	Leu	Gly 35	Lys	His	Asn	Tyr	Cys 40	Arg	Asn	Pro	Asp	Gly 45	Asp	Ala	Lys
Pro	Trp 50	Cys	His	Val	Leu	Lys 55	Asn	Arg	Arg	Leu	Thr 60	Trp	Glu	Tyr	Cys
Asp 65	Val	Pro	Ser	Ser	Ser 70	Thr	Cys	Gly	Leu	Arg 75	Gln	Tyr	Ser	Gln	Pro 80
Gln	Phe	Arg	Ile	Lys 85	Gly	Gly	Leu	Phe	Ala 90	Asp	Ile	Ala	Ser	His 95	Pro
Trp	Gln	Ala	Ala 100	Ile	Phe	Ala	Lys	His 105	Arg	Arg	Ser	Pro	Gly 110	Glu	Arg
Phe	Leu	Cys 115	Gly	Gly	Ile	Leu	Ile 120	Ser	Ser	Cys	Trp	Ile 125	Leu	Ser	Ala
Ala	His 130	Cys	Phe	Gln	Glu	Arg 135	Phe	Pro	Pro	His	His 140	Leu	Thr	Val	Ile
Leu 145	Gly	Arg	Thr	Tyr	Arg 150	Val	Val	Pro	Gly	Glu 155	Glu	Glu	Gln	Lys	Phe 160
Glu	Val	Glu	Lys 165	Tyr	Ile	Val	His	Lys	Glu 170	Phe	Asp	Asp	Asp	Thr 175	Tyr
Asp	Asn	Asp	Ile 180	Ala	Leu	Leu	Gln	Leu 185	Lys	Ser	Asp	Ser	Ser 190	Arg	Cys
Ala	Gln 195	Glu	Ser	Ser	Val	Val	Arg 200	Thr	Val	Cys	Leu	Pro 205	Pro	Ala	Asp
Leu	Gln 210	Leu	Pro	Asp	Trp	Thr 215	Glu	Cys	Glu	Leu	Ser 220	Gly	Tyr	Gly	Lys
His 225	Glu	Ala	Leu	Ser	Pro 230	Phe	Tyr	Ser	Glu	Arg 235	Leu	Lys	Glu	Ala	His 240
Val	Arg	Leu	Tyr	Pro 245	Ser	Ser	Arg	Cys	Thr 250	Ser	Gln	His	Leu	Leu 255	Asn
Arg	Thr	Val	Thr 260	Asp	Asn	Met	Leu	Cys 265	Ala	Gly	Asp	Thr	Arg 270	Ser	Gly

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<210> 14
<211> 343
<212> PRT
<213> Artificial Sequence
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Cys	Leu	Pro	Trp	Asn	Ser	Met	Ile	Leu	Ile	Gly	Lys	Val	Tyr	Thr	Ala	
			20					25					30			
Gln	Asn	Pro	Ser	Ala	Gln	Ala	Leu	Gly	Leu	Gly	Lys	His	Asn	Tyr	Cys	
		35					40					45				
Arg	Asn	Pro	Asp	Gly	Asp	Ala	Lys	Pro	Trp	Cys	His	Val	Leu	Lys	Asn	
	50					55					60					
Arg	Arg	Leu	Thr	Trp	Glu	Tyr	Cys	Asp	Val	Pro	Ser	Cys	Ser	Thr	Cys	
65					70					75					80	
Gly	Leu	Arg	Gln	Tyr	Ser	Gln	Pro	Gln	Phe	Arg	Ile	Lys	Gly	Gly	Leu	
				85					90					95		
Phe	Ala	Asp	Ile	Ala	Ser	His	Pro	Trp	Gln	Ala	Ala	Ile	Phe	Ala	Lys	
			100					105					110			
His	Arg	Arg	Ser	Pro	Gly	Glu	Arg	Phe	Leu	Cys	Gly	Gly	Ile	Leu	Ile	
		115					120					125				
Ser	Ser	Cys	Trp	Ile	Leu	Ser	Ala	Ala	His	Cys	Phe	Gln	Glu	Arg	Phe	
	130					135					140					
Pro	Pro	His	His	Leu	Thr	Val	Ile	Leu	Gly	Arg	Thr	Tyr	Arg	Val	Val	
145					150					155					160	
Pro	Gly	Glu	Glu	Glu	Gln	Lys	Phe	Glu	Val	Glu	Lys	Tyr	Ile	Val	His	
				165					170					175		
Lys	Glu	Phe	Asp	Asp	Asp	Thr	Tyr	Asp	Asn	Asp	Ile	Ala	Leu	Leu	Gln	
			180					185					190			
Leu	Lys	Ser	Asp	Ser	Ser	Arg	Cys	Ala	Gln	Glu	Ser	Ser	Val	Val	Arg	
		195					200					205				

Thr Val Cys Leu Pro Pro Ala Asp Leu Gln Leu Pro Asp Trp Thr Glu
210 215 220

Cys Glu Leu Ser Gly Tyr Gly Lys His Glu Ala Leu Ser Pro Phe Tyr
225 230 235 240

Ser Glu Arg Leu Lys Glu Ala His Val Arg Leu Tyr Pro Ser Ser Arg
245 250 255

Cys Thr Ser Gln His Leu Leu Asn Arg Thr Val Thr Asp Asn Met Leu
260 265 270

Cys Ala Gly Asp Thr Arg Ser Gly Gly Pro Gln Ala Asn Leu His Asp
275 280 285

Ala Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Leu Asn Asp Gly
290 295 300

Arg Met Thr Leu Val Gly Ile Ile Ser Trp Gly Leu Gly Cys Gly Gln
305 310 315 320

Lys Asp Val Pro Gly Val Tyr Thr Lys Val Thr Asn Tyr Leu Asp Trp
325 330 335

Ile Arg Asp Asn Met Arg Pro
340

<210> 15

<211> 343

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: part of the
recombinant K2S molecule (modified)

<400> 15

Ser Glu Gly Asn Ser Asp Thr His Ser Leu Thr Glu Ser Gly Ala Ser
1 5 10 15

Cys Leu Pro Trp Asn Ser Met Ile Leu Ile Gly Lys Val Tyr Thr Ala
20 25 30

Gln Asn Pro Ser Ala Gln Ala Leu Gly Leu Gly Lys His Asn Tyr Cys
35 40 45

Arg Asn Pro Asp Gly Asp Ala Lys Pro Trp Cys His Val Leu Lys Asn
50 55 60

Arg Arg Leu Thr Trp Glu Tyr Cys Asp Val Pro Ser Ser Ser Thr Cys
65 70 75 80

Gly Leu Arg Gln Tyr Ser Gln Pro Gln Phe Arg Ile Lys Gly Gly Leu
85 90 95

Phe Ala Asp Ile Ala Ser His Pro Trp Gln Ala Ala Ile Phe Ala Lys
100 105 110

His Arg Arg Ser Pro Gly Glu Arg Phe Leu Cys Gly Gly Ile Leu Ile
115 120 125

Protein = 2512660

Ser Ser Cys Trp Ile Leu Ser Ala Ala His Cys Phe Gln Glu Arg Phe
130 135 140

Pro Pro His His Leu Thr Val Ile Leu Gly Arg Thr Tyr Arg Val Val
145 150 155 160

Pro Gly Glu Glu Glu Gln Lys Phe Glu Val Glu Lys Tyr Ile Val His
165 170 175

Lys Glu Phe Asp Asp Asp Thr Tyr Asp Asn Asp Ile Ala Leu Leu Gln
180 185 190

Leu Lys Ser Asp Ser Ser Arg Cys Ala Gln Glu Ser Ser Val Val Arg
195 200 205

Thr Val Cys Leu Pro Pro Ala Asp Leu Gln Leu Pro Asp Trp Thr Glu
210 215 220

Cys Glu Leu Ser Gly Tyr Gly Lys His Glu Ala Leu Ser Pro Phe Tyr
225 230 235 240

Ser Glu Arg Leu Lys Glu Ala His Val Arg Leu Tyr Pro Ser Ser Arg
245 250 255

Cys Thr Ser Gln His Leu Leu Asn Arg Thr Val Thr Asp Asn Met Leu
260 265 270

Cys Ala Gly Asp Thr Arg Ser Gly Gly Pro Gln Ala Asn Leu His Asp
275 280 285

Ala Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Leu Asn Asp Gly
290 295 300

Arg Met Thr Leu Val Gly Ile Ile Ser Trp Gly Leu Gly Cys Gly Gln
305 310 315 320

Lys Asp Val Pro Gly Val Tyr Thr Lys Val Thr Asn Tyr Leu Asp Trp
325 330 335

Ile Arg Asp Asn Met Arg Pro
340

<210> 16

<211> 308

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: part of the
recombinant K2S molecule (modified)

<400> 16

Ser Ala Gln Ala Leu Gly Leu Gly Lys His Asn Tyr Cys Arg Asn Pro
1 5 10 15

Asp Gly Asp Ala Lys Pro Trp Cys His Val Leu Lys Asn Arg Arg Leu
20 25 30

Thr Trp Glu Tyr Cys Asp Val Pro Ser Cys Ser Thr Cys Gly Leu Arg
35 40 45

Gln Tyr Ser Gln Pro Gln Phe Arg Ile Lys Gly Gly Leu Phe Ala Asp
50 55 60

Ile Ala Ser His Pro Trp Gln Ala Ala Ile Phe Ala Lys His Arg Arg
65 70 75 80

Ser Pro Gly Glu Arg Phe Leu Cys Gly Gly Ile Leu Ile Ser Ser Cys
85 90 95

Trp Ile Leu Ser Ala Ala His Cys Phe Gln Glu Arg Phe Pro Pro His
100 105 110

His Leu Thr Val Ile Leu Gly Arg Thr Tyr Arg Val Val Pro Gly Glu
115 120 125

Glu Glu Gln Lys Phe Glu Val Glu Lys Tyr Ile Val His Lys Glu Phe
130 135 140

Asp Asp Asp Thr Tyr Asp Asn Asp Ile Ala Leu Leu Gln Leu Lys Ser
145 150 155 160

Asp Ser Ser Arg Cys Ala Gln Glu Ser Ser Val Val Arg Thr Val Cys
165 170 175

Leu Pro Pro Ala Asp Leu Gln Leu Pro Asp Trp Thr Glu Cys Glu Leu
180 185 190

Ser Gly Tyr Gly Lys His Glu Ala Leu Ser Pro Phe Tyr Ser Glu Arg
195 200 205

Leu Lys Glu Ala His Val Arg Leu Tyr Pro Ser Ser Arg Cys Thr Ser
210 215 220

Gln His Leu Leu Asn Arg Thr Val Thr Asp Asn Met Leu Cys Ala Gly
225 230 235 240

Asp Thr Arg Ser Gly Gly Pro Gln Ala Asn Leu His Asp Ala Cys Gln
245 250 255

Gly Asp Ser Gly Gly Pro Leu Val Cys Leu Asn Asp Gly Arg Met Thr
260 265 270

Leu Val Gly Ile Ile Ser Trp Gly Leu Gly Cys Gly Gln Lys Asp Val
275 280 285

Pro Gly Val Tyr Thr Lys Val Thr Asn Tyr Leu Asp Trp Ile Arg Asp
290 295 300

Asn Met Arg Pro
305

<210> 17

<211> 268

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: part of the
recombinant K2S molecule (modified)

<400> 17

Ser Cys Ser Thr Cys Gly Leu Arg Gln Tyr Ser Gln Pro Gln Phe Arg
1 5 10 15
Ile Lys Gly Gly Leu Phe Ala Asp Ile Ala Ser His Pro Trp Gln Ala
20 25 30
Ala Ile Phe Ala Lys His Arg Arg Ser Pro Gly Glu Arg Phe Leu Cys
35 40 45
Gly Gly Ile Leu Ile Ser Ser Cys Trp Ile Leu Ser Ala Ala His Cys
50 55 60
Phe Gln Glu Arg Phe Pro Pro His His Leu Thr Val Ile Leu Gly Arg
65 70 75 80
Thr Tyr Arg Val Val Pro Gly Glu Glu Glu Gln Lys Phe Glu Val Glu
85 90 95
Lys Tyr Ile Val His Lys Glu Phe Asp Asp Asp Thr Tyr Asp Asn Asp
100 105 110
Ile Ala Leu Leu Gln Leu Lys Ser Asp Ser Ser Arg Cys Ala Gln Glu
115 120 125
Ser Ser Val Val Arg Thr Val Cys Leu Pro Pro Ala Asp Leu Gln Leu
130 135 140
Pro Asp Trp Thr Glu Cys Glu Leu Ser Gly Tyr Gly Lys His Glu Ala
145 150 155 160
Leu Ser Pro Phe Tyr Ser Glu Arg Leu Lys Glu Ala His Val Arg Leu
165 170 175
Tyr Pro Ser Ser Arg Cys Thr Ser Gln His Leu Leu Asn Arg Thr Val
180 185 190
Thr Asp Asn Met Leu Cys Ala Gly Asp Thr Arg Ser Gly Gly Pro Gln
195 200 205
Ala Asn Leu His Asp Ala Cys Gln Gly Asp Ser Gly Gly Pro Leu Val
210 215 220
Cys Leu Asn Asp Gly Arg Met Thr Leu Val Gly Ile Ile Ser Trp Gly
225 230 235 240
Leu Gly Cys Gly Gln Lys Asp Val Pro Gly Val Tyr Thr Lys Val Thr
245 250 255
Asn Tyr Leu Asp Trp Ile Arg Asp Asn Met Arg Pro
260 265

<210> 18
<211> 527
<212> PRT
<213> Homo sapiens (tPA)

<400> 18
Ser Tyr Gln Val Ile Cys Arg Asp Glu Lys Thr Gln Met Ile Tyr Gln
1 5 10 15
Gln His Gln Ser Trp Leu Arg Pro Val Leu Arg Ser Asn Arg Val Glu

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Tyr	Cys	Trp	Cys	Asn	Ser	Gly	Arg	Ala	Gln	Cys	His	Ser	Val	Pro	Val	
		35					40					45				
Lys	Ser	Cys	Ser	Glu	Pro	Arg	Cys	Phe	Asn	Gly	Gly	Thr	Cys	Gln	Gln	
	50					55					60					
Ala	Leu	Tyr	Phe	Ser	Asp	Phe	Val	Cys	Gln	Cys	Pro	Glu	Gly	Phe	Ala	
65					70					75					80	
Gly	Lys	Cys	Cys	Glu	Ile	Asp	Thr	Arg	Ala	Thr	Cys	Tyr	Glu	Asp	Gln	
				85					90					95		
Gly	Ile	Ser	Tyr	Arg	Gly	Thr	Trp	Ser	Thr	Ala	Glu	Ser	Gly	Ala	Glu	
			100					105					110			
Cys	Thr	Asn	Trp	Asn	Ser	Ser	Ala	Leu	Ala	Gln	Lys	Pro	Tyr	Ser	Gly	
		115					120					125				
Arg	Arg	Pro	Asp	Ala	Ile	Arg	Leu	Gly	Leu	Gly	Asn	His	Asn	Tyr	Cys	
	130					135					140					
Arg	Asn	Pro	Asp	Arg	Asp	Ser	Lys	Pro	Trp	Cys	Tyr	Val	Phe	Lys	Ala	
145					150					155					160	
Gly	Lys	Tyr	Ser	Ser	Glu	Phe	Cys	Ser	Thr	Pro	Ala	Cys	Ser	Glu	Gly	
				165					170					175		
Asn	Ser	Asp	Cys	Tyr	Phe	Gly	Asn	Gly	Ser	Ala	Tyr	Arg	Gly	Thr	His	
			180					185					190			
Ser	Leu	Thr	Glu	Ser	Gly	Ala	Ser	Cys	Leu	Pro	Trp	Asn	Ser	Met	Ile	
		195					200					205				
Leu	Ile	Gly	Lys	Val	Tyr	Thr	Ala	Gln	Asn	Pro	Ser	Ala	Gln	Ala	Leu	
	210					215					220					
Gly	Leu	Gly	Lys	His	Asn	Tyr	Cys	Arg	Asn	Pro	Asp	Gly	Asp	Ala	Lys	
225					230					235					240	
Pro	Trp	Cys	His	Val	Leu	Lys	Asn	Arg	Arg	Leu	Thr	Trp	Glu	Tyr	Cys	
				245					250					255		
Asp	Val	Pro	Ser	Cys	Ser	Thr	Cys	Gly	Leu	Arg	Gln	Tyr	Ser	Gln	Pro	
			260					265					270			
Gln	Phe	Arg	Ile	Lys	Gly	Gly	Leu	Phe	Ala	Asp	Ile	Ala	Ser	His	Pro	
		275					280					285				
Trp	Gln	Ala	Ala	Ile	Phe	Ala	Lys	His	Arg	Arg	Ser	Pro	Gly	Glu	Arg	
	290					295					300					
Phe	Leu	Cys	Gly	Gly	Ile	Leu	Ile	Ser	Ser	Cys	Trp	Ile	Leu	Ser	Ala	
305					310					315					320	
Ala	His	Cys	Phe	Gln	Glu	Arg	Phe	Pro	Pro	His	His	Leu	Thr	Val	Ile	
				325					330					335		
Leu	Gly	Arg	Thr	Tyr	Arg	Val	Val	Pro	Gly	Glu	Glu	Glu	Gln	Lys	Phe	
			340					345					350			

Glu	Val	Glu	Lys	Tyr	Ile	Val	His	Lys	Glu	Phe	Asp	Asp	Asp	Thr	Tyr
		355					360					365			
Asp	Asn	Asp	Ile	Ala	Leu	Leu	Gln	Leu	Lys	Ser	Asp	Ser	Ser	Arg	Cys
	370					375					380				
Ala	Gln	Glu	Ser	Ser	Val	Val	Arg	Thr	Val	Cys	Leu	Pro	Pro	Ala	Asp
385					390					395					400
Leu	Gln	Leu	Pro	Asp	Trp	Thr	Glu	Cys	Glu	Leu	Ser	Gly	Tyr	Gly	Lys
				405					410					415	
His	Glu	Ala	Leu	Ser	Pro	Phe	Tyr	Ser	Glu	Arg	Leu	Lys	Glu	Ala	His
			420					425					430		
Val	Arg	Leu	Tyr	Pro	Ser	Ser	Arg	Cys	Thr	Ser	Gln	His	Leu	Leu	Asn
		435					440					445			
Arg	Thr	Val	Thr	Asp	Asn	Met	Leu	Cys	Ala	Gly	Asp	Thr	Arg	Ser	Gly
	450					455					460				
Gly	Pro	Gln	Ala	Asn	Leu	His	Asp	Ala	Cys	Gln	Gly	Asp	Ser	Gly	Gly
465					470					475					480
Pro	Leu	Val	Cys	Leu	Asn	Asp	Gly	Arg	Met	Thr	Leu	Val	Gly	Ile	Ile
				485					490					495	
Ser	Trp	Gly	Leu	Gly	Cys	Gly	Gln	Lys	Asp	Val	Pro	Gly	Val	Tyr	Thr
			500					505					510		
Lys	Val	Thr	Asn	Tyr	Leu	Asp	Trp	Ile	Arg	Asp	Asn	Met	Arg	Pro	
		515					520					525			

THE "STANDARD"